Title (en)

SWITCH CIRCUIT AND POWER MODULE

Title (de)

SCHALTKREIS UND LEISTUNGSMODUL

Title (fr)

CIRCUIT DE COMMUTATION ET MODULE DE PUISSANCE

Publication

EP 4293909 A1 20231220 (EN)

Application

EP 23167293 A 20230411

Priority

US 202217840863 A 20220615

Abstract (en)

A switch circuit (1) electrically connected to a power source (11) and a first control source (121) and including a plurality of switch bridge arms is provided. Each of the plurality of switch bridge arms includes a first switch (131) and a second switch (141) electrically connected in series. A loop formed by the first switch (131), the second switch (141) and the power source (11) is defined as a power loop. A loop formed by the first control source (121) and the first switch (131) is defined as a first control loop. A first mutual inductance is formed between the power loop and the first control loop. Among all the first switches (131, 13n), the first switch with the longer power loop has the smaller first mutual inductance.

IPC 8 full level

H03K 17/12 (2006.01); **H01L 25/07** (2006.01); **H02M 1/088** (2006.01); **H03K 17/0814** (2006.01)

CPC (source: EP US)

H01L 25/072 (2013.01 - EP); **H02M 1/088** (2013.01 - EP US); **H02M 3/003** (2021.05 - EP); **H02M 7/003** (2013.01 - EP); **H03K 17/08142** (2013.01 - EP); **H03K 17/122** (2013.01 - EP US); **H03K 17/687** (2013.01 - US)

Citation (search report)

- [X] US 10141254 B1 20181127 - XU ZHUXIAN [US], et al
- [X] WO 2021167596 A1 20210826 - PIERBURG GMBH [DE]
- [A] EP 3246945 B1 20181003 - ABB SCHWEIZ AG [CH], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

US 11804837 B1 20231031; CN 117240065 A 20231215; EP 4293909 A1 20231220; TW 202401967 A 20240101; US 12003232 B2 20240604; US 2024014814 A1 20240111

DOCDB simple family (application)

US 202217840863 A 20220615; CN 202310394030 A 20230413; EP 23167293 A 20230411; TW 112114953 A 20230421; US 202318370063 A 20230919